

Amendments to the Claims

This listing of the claims shall replace all prior versions and listings of the claims in this application

Listing of the Claims:

1. ~~(canceled) A process for the solid-phase synthesis of bio-oligomers wherein at least one washing step is carried out in the presence of a salt $(X^{n+})_m(Y^{m-})_n$, wherein X represents a cation, n represents the charge of the cation, y represents an anion and m represents the charge of the anion.~~
2. ~~(canceled) A process for attaching an appropriately protected monomer or oligomer to another monomer or oligomer which is protected by a protecting group and which is attached to a support, comprising:
a) ~~cleaving the protecting group from the monomer or oligomer attached to the support;~~
b) ~~performing a thorough washing; and~~
c) ~~adding an appropriately protected monomer or oligomer and coupling it to the monomer or oligomer that is attached to the support, to form a covalent bond;~~
wherein a salt $(X^{n+})_m(Y^{m-})_n$ which is soluble in a solvent used in this process is added, and wherein, if the salt $(X^{n+})_m(Y^{m-})_n$ is added in step c), the solvent is neither a chloroform/phenol nor a chloroform/trifluoroethanol mixture.~~
3. (currently amended) A process for attaching an α -amino protected amino acid or peptide having an unprotected C-terminus to another amino acid or peptide which is protected by an α -amino protecting group and which is attached to a support during solid phase peptide synthesis comprising:
 - a) cleaving the α -amino protecting group from the amino acid or peptide attached to the support;
 - b) performing a thorough washing; and
 - c) adding an α -amino protected amino acid or peptide having an unprotected C- terminus and coupling it to the amino acid or peptide that is attached to the support and that now has an unprotected N-terminus, to form an amide bond;wherein ~~a salt~~ an ammonium, phosphonium or sulfonium salt $(X^{n+})_m(Y^{m-})_n$, which is soluble in a solvent used in this; process is added, and wherein, if the salt $(X^{n+})_m(Y^{m-})_n$ is added in step c), the solvent is neither a chloroform/phenol nor a chloroform/trifluoroethanol mixture, and wherein X

represents a cation, n represents the charge of the cation, Y represents an anion and m represents the charge of the anion.

4. (currently amended) The process according to ~~claim 2~~ claim 3, which additionally comprises the following step:

d) performing a thorough washing;
wherein step d) is performed after step c).

5. (currently amended) A process for attaching an α -amino protected amino acid or peptide having an unprotected C-terminus to another amino acid or peptide which is protected by an α -amino protecting group and which is attached to a support during solid phase peptide synthesis comprising:

- a) cleaving the α -amino protecting group from the amino acid or peptide attached to the support;
- b) performing a thorough washing;
- c) adding an α -amino protected amino acid or peptide having an unprotected C- terminus and coupling it to the amino acid or peptide that is attached to the support and that now has an unprotected N-terminus, to form an amide bond; and
- d) performing another thorough washing;

wherein at least in step a), ~~a salt~~ an ammonium, phosphonium or sulfonium salt $(X^{n+})_m (Y^{m-})_n$, which is soluble in a solvent used in this step, is added, and wherein X represents a cation, n represents the charge of the cation, Y represents an anion and m represents the charge of the anion.

6. (currently amended) A process for attaching an α -amino protected amino acid or peptide having an unprotected C-terminus to another amino acid or peptide which is protected by an α -amino protecting group and which is attached to a support during solid phase peptide synthesis comprising:

- a) cleaving the α -amino protecting group from the amino acid or peptide attached to the support;
- b) performing a thorough washing;

- c) adding an α -amino protected amino acid or peptide having an unprotected C- terminus and coupling it to the amino acid or peptide that is attached to the support and that now has an unprotected N-terminus, to form an amide bond;
 - d) performing another thorough washing;

wherein at least in step b), ~~a salt~~ an ammonium, phosphonium or sulfonium salt $(X^{n+})_m (Y^{m-})_n$, which is soluble in a solvent used in this step, is added, and wherein X represents a cation, n represents the charge of the cation, Y represents an anion and m represents the charge of the anion.
7. (currently amended) A process for attaching an α -amino protected amino acid or peptide having an unprotected C-terminus to another amino acid or peptide which is protected by an α -amino protecting group and which is attached to a support during solid phase peptide synthesis comprising:
 - a) cleaving the α -amino protecting group from the amino acid or peptide attached to the support;
 - b) performing a thorough washing;
 - c) adding an α -amino protected amino acid or peptide having an unprotected C- terminus and coupling it to the amino acid or peptide that is attached to the support and that now has an unprotected N-terminus, to form an amide bond; and
 - d) performing another thorough washing;

wherein at least in step c), ~~a salt~~ an ammonium, phosphonium or sulfonium salt $(X^{n+})_m (Y^{m-})_n$, which is soluble in a solvent used in this step, is added, and wherein the solvent is neither a chloroform/phenol nor a chloroform/trifluoroethanol mixture, and wherein X represents a cation, n represents the charge of the cation, Y represents an anion and m represents the charge of the anion.
8. (currently amended) A process for attaching an α -amino protected amino acid or peptide having an unprotected C-terminus to another amino acid or peptide which is protected by an α -amino protecting group and which is attached to a support during solid phase peptide synthesis comprising:
 - a) cleaving the α -amino protecting group from the amino acid or peptide attached to the support;

- b) performing a thorough washing;
 - c) adding an α -amino protected amino acid or peptide having an unprotected C- terminus and coupling it to the amino acid or peptide that is attached to the support and that now has an unprotected N-terminus, to form an amide bond; and
 - d) performing another thorough washing;
- wherein at least in step d), ~~a salt~~ an ammonium, phosphonium or sulfonium salt $(X^{n+})_m (Y^{m-})_n$, which is soluble in a solvent used in this step, is added, ~~and wherein X represents a cation, n~~ represents the charge of the cation, Y represents an anion and m represents the charge of the anion.
9. (currently amended) The process according to ~~claim 1~~ claim 3, wherein the salt $(X^{n+})_m (Y^{m-})_n$, where X represents a cation, n represents the charge of the cation, Y represents an anion and m represents the charge of the anion, is selected from the group consisting of quaternary ammonium salts, ionic liquids, ~~phosphonium salts, sulfonium salts, inorganic salts and any mixture thereof.~~
 10. (currently amended) The process according to claim 9 wherein ~~$(X^{n+})_m$~~ Y^{m-} is selected from the group consisting of fluoride, chloride, bromide, iodide, hydroxide, carbonate, hydrogenocarbonate, nitrate, phosphate, hydrogenophosphate, dihydrogenophosphate, tetrafluoroborate, hexafluorophosphate, acetate, carboxylates, cyanides, isocyanates, tetra-alkylborates, tetra-arylborates, trifluoroacetate, tosylate, mesylate and any mixture thereof, wherein Y represents an anion and m represents the charge of the anion.
 11. (previously presented) The process according to claim 9 wherein the quaternary ammonium salt is selected from the group consisting of benzyltrimethylammonium hydroxide, benzyltrimethylammonium chloride and benzyltrimethylammonium carbonate, the phosphonium salt is tetrabutylphosphonium bromide and the sulfonium salt is triethylsulfonium tetrafluoroborate.
 12. (currently amended) The process according to ~~claim 2~~ claim 3, wherein the salt added in step a), b), or c) ~~or d)~~ is also added in one or more of the other steps.

13. (currently amended) The process according to claim 3, wherein the α -amino protecting group is Fmoc (9-fluorenylmethoxycarbonyl) or Nsc (~~p-Nitrophenylsulphonyl~~ethoxycarbonate) (p-nitrophenylsulphonylethoxycarbonate) or any other base-cleavable protecting group.
14. (currently amended) The process according to claim 3, wherein the α -amino protecting group is Boc (tert-butoxycarbonyl), Trt (trityl), Bpoc (~~2-p-Biphenylisopropyl~~oxycarbonyl) (2-p-biphenylisopropyloxycarbonyl) or any other acid-cleavable protecting group.
15. (previously presented) The process according to claim 3, wherein the α -amino protecting group is selected so that neither acid nor base treatment is required for its cleavage.
16. (currently amended) The process for synthesising a peptide of a desired sequence comprising:
 - a) attaching a first amino acid or peptide, having an α -amino protecting group, via its C-terminus to a functionalized support;
 - b) performing the process according to claim 3 with the ~~following next~~ amino acid or peptide ~~foreseen in the in said desired~~ sequence;
 - c) repeating step b with the appropriate amino acids or peptides until the desired sequence is achieved; and
 - d) cleaving the assembled peptide from the support by an appropriate method.
17. (canceled) ~~Use of a salt (Xⁿ⁺)_m(Y^{m-})_n in solid phase peptide synthesis for improving the washing of the peptide resin.~~
18. (canceled) ~~Use according to claim 17 for improving the elimination of excess amino acids or cleavage reagents.~~
19. (new) The process for synthesising a peptide according to claim 16, wherein no wash step is performed between steps a) and b).